

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF DELAWARE**

IN THE MATTER OF THE APPLICATION	)	
OF DELMARVA POWER & LIGHT COMPANY,	)	
EXELON CORORPATION, PEPCO HOLDINGS	)	PSC DOCKET NO. 14-193
INC., PURPLE ACQUISITION CORPORATION,	)	
EXELON ENERGY DELIVERY COMPANY, LLC	)	
AND SPECIAL PURPOSE ENTITY, LLC	)	
FOR APPROVALS UNDER THE PROVISIONS	)	
OF 26 <i>Del. C.</i> §§ 215 AND 1016	)	
(FILED JUNE 18, 2014)	)	

**SUPPLEMENTAL TESTIMONY OF JEREMY FIRESTONE**

**March 6, 2015**

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*Pro Se*

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15

16  
17 **Supplemental Testimony of Jeremy Firestone**  
18

19 **March 6, 2015**  
20

21 **1. Q. Please state your full name and address.**

22 A. My name is Jeremy Mark Firestone. My home address is 130 Winslow Road,  
23 Newark, Delaware 19711.  
24

25 **2. Q. Do you also have a business address?**

26 A. Yes, my business address is University of Delaware, 373 ISELab, Newark,  
27 Delaware 19716.  
28

29 **3. Q. What is your position at the University of Delaware (UD)?**

30 A. I am a Professor in the College of Earth, Ocean and Environment, School of  
31 Marine Science and Policy. I also am the Director of Center for Carbon-free Power Integration.  
32

33 **4. Q. Have you previously submitted testimony in this case?**

34 A. Yes, I submitted testimony in this case on December 12, 2014.

1     **5.     Q.     Why are you supplementing your testimony at this time?**

2                   A.     On February 13, 2015, a proposed settlement that was entered into  
3     between the Joint Applicants and the PSC Staff, the Public Advocate (DPA), the Delaware  
4     Department of Natural Resources and Environmental Control (DNREC), the Mid-Atlantic  
5     Renewable Energy Coalition (MAREC) and the Clean Air Council (CAC) was submitted for  
6     Commission consideration. At the time of my original testimony, settlement discussions were in  
7     only a very preliminary phase.

8  
9     **6.     Q.     What is the purpose of your supplemental testimony?**

10                  A.     The purpose of my supplemental testimony is to provide initial insights  
11     into the consequences of approving the proposed settlement and the implications of terms  
12     contained within. As the Settling Parties have not yet put on their direct case or otherwise  
13     submitted pre-filed testimony on the proposed settlement, my testimony at this time addresses  
14     only the text of the settlement (and text that does not appear) and not the rationales that will be  
15     advanced by the Settling Parties at the April 7, 2014 hearing. Although I could have withheld all  
16     observations until the April 7, 2014 evidentiary hearing, it is efficient and thus useful to air these  
17     opinions now.

18  
19     **7.     Q.     Which materials did you review prior to providing supplemental testimony?**

20                  Prior to testifying, I reviewed the application, the proposed settlement, the responses to  
21     discovery requests, relevant voluntarily produced materials, materials accessible through the  
22     Internet, and testimony of the Settling Parties and as well as the filings of the Independent  
23     Market Monitor. In addition, I was present during most of the deposition testimony of the Joint

Applicants' witnesses. I also reviewed the statutory standards under which the Commission evaluates mergers. Finally, I am familiar with renewable energy policies of the State of Delaware, including the Regional Greenhouse Gas Initiative (RGGI), the Delaware RPS, and Integrative Resource Planning (IRP).

**8. Q. Have you reached any overall conclusions regarding the proposed settlement?**

A. Yes, I have. The CIF, a center-piece of the proposed settlement, lacks a scientific basis, is misallocated to customer credits, and the non-Joint Applicant Settling Parties erred in structuring the payments over a ten-year period at a low interest rate rather than as a lump sum payment resulting in significantly less value to the ratepayers. Further, the proposed settlement fails to fence off Exelon's policies, position, and practices related to energy policy matters and energy development, which run counter to public policies of the State of Delaware and the Delaware Public Service Commission and will lead to higher prices to be paid by ratepayers. Exelon's positions, which are not rein in, are hurtful to renewable energy in general, wind power specifically, and place substantial costs and risks on Delaware ratepayers.

I oppose the proposed settlement because, if approved, it would among other things, (a) backslide on the renewable energy practices of Delmarva Power, settling for renewable energy credit (REC) purchases rather than integrated energy, capacity and REC contracts; (b) require the Commission to endorse the preferences of the Settling Parties on the use of the Customer Investment Fund (CIF) rather than leaving it to the wisdom and judgment of the Commission on how to do so; (c) allocate the CIF such that the entire amount is dedicated to customer bill credits despite the much larger benefits that would accrue if the monies were allocated to efficiency; (d)

1 amortize the CIF over a ten-year at an interest rate substantially below the private discount rate  
2 and transfer wealth from ratepayers to Exelon; (e) integrate distribution into generation, creating  
3 incentives that are inimical to renewable energy and energy efficiency and the best interests of  
4 Delmarva Power ratepayers and Delawareans; (f) jeopardize future progress on renewables in the  
5 state by transferring control to a company that opposes enhanced renewable portfolio standards  
6 (RPS); (g) result in Delawareans paying higher costs in the future for electricity generally, wind  
7 power specifically, and RECs if Exelon prevails on its opposition to the wind production tax and  
8 proposed transmission projects such as the Clean Energy Line that would bring wind power to  
9 PJM; (h) transfer risk to ratepayers in the event of nuclear power plant decommissioning cost  
10 over-runs and more generally of being asked to subsidize nuclear operations as Exelon is seeking  
11 to have ratepayers do in other states; and (i) require Exelon to undertake a study of additional  
12 natural gas generation and fuel Delaware is already overly-reliant on.

13 The proposed settlement provides minimal benefits in the near term in exchange for very large  
14 long-term risks—risks that must be considered in light of 26 Del. C. §1013—and that falls far  
15 short of even Staff’s own minimum “requirements,” that it earlier filed in this docket and which  
16 it declared were “essential to ensure the Joint Applicants merger request is in the public interest”  
17 and the elements contained within the Staff requirements “as the appropriate consideration that  
18 would be consistent with the public interest in this merger application.”<sup>1</sup>

19  
20 **9. Q. Can you please elaborate on your opinion of the Amortized CIF?**

21 A. My understanding is as follows. The CIF is based on a settlement amount of \$40  
22 million. That amount was then inflated at a rate of 4.5% and amortized over a ten-year period  
23 with 120 equal monthly payments for a total of \$49.170 million. The monthly payment is then

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<sup>1</sup>Supplemental Direct Testimony of Connie S. McDowell, 1:27-28 and 2:10-12 (emphasis added).

1 credited to Delmarva customers such that electric-only customers get one share, gas-only  
2 customers get 0.41 shares, and electric-gas customers get 1.41 shares. The monthly payments are  
3 then divided by the number of shares to arrive at a monthly ratepayer credit.

4 As an initial matter, it is important to recognize that the \$40 million figure on which the  
5 CIF is based does not have a scientific basis. Rather, it was instead based on an analysis so  
6 flawed that even the Joint Applicants' abandoned it at the 11<sup>th</sup> hour. Even if it did have a  
7 scientific basis, while the Joint Application rightfully placed the decision on how to use the  
8 financial part of the settlement in the hands of the Commission, in the proposed settlement the  
9 settling parties decide for themselves on the what (ratepayer rebate) to who (all ratepayers) and  
10 when (over ten years) of the CIF based on their own preferences. This is not consistent with the  
11 public interest. The Commission ought to decide this question divested of any presumption in  
12 favor of the settling parties' formulation, in its own best judgment, and not be forced into a  
13 position to approve, disapprove or modify a provision. Moreover, the Commission should make  
14 such a decision after notice and an opportunity of the public to be heard in writing and orally on  
15 this issue. Second, the what, who and the when chosen by the Settling Parties all run counter to  
16 the public interest.

17  
18 **10. Q. Why do you say the CIF lacks a scientific basis?**

19 A. The CIF is based on synergy analysis performed by Exelon's consultant, Boston  
20 Consulting Group (BCG).<sup>2</sup> Exelon produced Mr. David Gee, a Partner and Managing Director  
21 of BCG for deposition. After that deposition, I filed direct testimony in which I noted a number  
22 of fundamental errors in Mr. Gee's analysis that effectively rendered Mr. Gee's analysis a

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<sup>2</sup>Carim Khouzami Direct Testimony, pp. 23-26.

1 nullity.<sup>3</sup> Although I requested the Joint Applicants to produce the underlying data that Mr. Gee  
2 used in his analysis as a follow-up to the deposition, and to answer certain other questions  
3 regarding what they did produce, so that the results of the analysis that Mr. Gee did undertake  
4 could be verified and re-analyzed and so that analysis could be undertaken, the Joint Applicants  
5 never produced the data.<sup>4</sup>

6 Mr. Gee also made a number of questionable and arbitrary assumptions that led to a  
7 lower synergy savings value, including the number of years of synergy savings to include.<sup>5</sup> As  
8 well, Mr. Gee inappropriately allocated costs to achieve to PHI and allocated more of the net  
9 synergy savings to Exelon and its shareholders than he did to PHI.<sup>6</sup> Apparently recognizing that  
10 Mr. Gee's analysis could not be salvaged, on rebuttal, Exelon came up with a new method—a  
11 method I had no opportunity to inquire into—to calculate net synergies that magically arrived at  
12 the same total net synergies as Mr. Gee's flawed analysis did.<sup>7</sup>

13 A revised synergy analysis that takes into account items such as a longer synergy savings  
14 time horizon, re-allocation of synergy benefits from Exelon's shareholders to PHI ratepayers,  
15 and that does not burden PHI ratepayers with Exelon's costs to achieve, when discounted at 10  
16 percent, results in synergy savings of \$104 million.<sup>8</sup> That number like the numbers derived by  
17 the PSC staff and DPA are all substantially greater than the proposed settlement provides.

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<sup>3</sup> Confidential Direct Testimony of Dr. Jeremy Firestone, 8:19 – 10:15.

<sup>4</sup> Id. at 10:2-6.

<sup>5</sup> Id. at 10:18 – 11:15.

<sup>6</sup> Id. at 12:8-21.

<sup>7</sup> Rebuttal Testimony of Carmin Khouzami 3: 22- 4:1-17. This attempt to re-write history was subject to a Motion in Limine because it abandoned Mr. Khouzami's direct testimony, did not challenge the method/analysis of Dr. Firestone and others, and instead attempted to establish a new case-in-chief. Hearing Examiner Mark Lawrence denied that Motion without prejudice on February 5, 2015. I am not able to comment more on Mr. Khouzami's new method because earlier the Hearing Examiner barred me from propounding interrogatories on the Joint Applicants.

<sup>8</sup> Firestone Direct, 13:1 – 14:9, including Table 1. The number is even larger if a smaller discount rate is used. Id. at 14:5-9.

1 **11. Q. Why do you criticize the proposed settlement for failing to allocate the CIF to**  
2 **energy efficiency?**

3 A. The Joint Applicants initially proposed a \$17 Million CIF in their application. The  
4 Joint Applicants' expert witness, Dr. Susan F. Tierney, testified that the economic benefits of  
5 investing money in energy efficiency are several-fold better than providing ratepayer relief  
6 (compare \$79 million NPV in value-added and \$4.4 million NPV in incremental tax revenues to  
7 \$25.2 million and 0.9 million.<sup>9</sup> Second, economic theory (and Dr. Tierney's analysis) supports  
8 the proposition that the economic benefits that arise from limiting the rebate to lower-income  
9 ratepayers are greater than those associated with a general rebate.<sup>10</sup> This occurs because lower  
10 income ratepayers are much more likely to spend their rebate than are high-income ratepayers,  
11 and such spending has indirect economic benefits. So of the three options analyzed, energy  
12 efficiency provides the greatest public interest benefits while the option chosen by the Settling  
13 Parties provides the least.

14  
15 **12. Q. Assuming for the sake of argument that a general customer rebate did**  
16 **provide the greatest public interest benefits, would you support an amortized payment?**

17 A. I would only support such a long-term payment if the interest rate was  
18 substantially higher than that provided. Staff, the DPA and the other parties that settled with  
19 Exelon erred in agreeing to a 10-year payout at such a low interest rate of 4.5%.

20  
21 **13. Q. Why, 4.5% sounds high, it is better than you can do in a bank and it exceeds**  
22 **the historic rate of inflation over the past several decades?**

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<sup>9</sup> Direct Testimony of Dr. Susan F. Tierney, Table SFT-5, p. 35.

<sup>10</sup> Id.



1           A.     Just because it sounds high, does not mean it is adequate to make ratepayers  
2 indifferent between a full payout now and one amortized over ten years. There are two things  
3 that are important here, the first of which is the real private discount rate. I use the term “real” to  
4 distinguish it from the “nominal” rate, which does not account for inflation. The discount rate  
5 takes into account the time value of money. It is important to recognize that private discount  
6 rates differ from social discount rates, with latter being used in policy analysis of social  
7 programs. In contrast, a private discount rate looks at discounting from the perspective of an  
8 individual.<sup>11</sup> For example, if a person would require \$1.10 a year from now to be equally well off  
9 as having received a \$1.00 today, that person’s private discount rate is 10 percent.

10           Empirical research shows a wide range of private discount rates. However, we do know  
11 from studies that discount rates are greater for gains (like the present cases) than they are for  
12 losses and they are greater when small dollar amounts, such as are at issue in the present case on a  
13 per-ratepayer basis, than they are when larger amounts are at issue.<sup>12</sup> In the electricity sector,  
14 discount rates that have been observed are 17-20 percent for air conditioners, 45 to 300 percent  
15 for refrigerators (depending on assumptions made about the cost of electricity), 138 percent for  
16 freezers, and 243 percent for electric water heaters.<sup>13</sup>

17           This issue is perhaps more easily understood when we consider an item such as credit  
18 card debt. Many people assume large credit card debt in order to obtain a good today (or  
19 yesterday) in exchange for very large financing charges (14-23%), which incidentally they would

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<sup>11</sup> EPA, Discounting Future Benefits and Costs, page 6-1, available at  
[http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0568-06.pdf/\\$file/EE-0568-06.pdf](http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0568-06.pdf/$file/EE-0568-06.pdf).

<sup>12</sup> Frederick, S., Lowenstein, G., O’Donoghue, T., Time Discounting and Time Preference: A Critical Review, *Journal of Economic Literature*, 40(2): 351-401, 360 (2002)

<sup>13</sup> Id. at 384 (citations omitted).

1 have the choice to pay down if the proposed settlement provided for a lump sum payment.<sup>14</sup> Or  
2 look at business like Rent-A-Center. It presently is providing a lease-purchase agreement of two  
3 cell phones for 116 weeks at \$29.99/week for a total of \$3,478.84.<sup>15</sup> The retail price of the cell  
4 phones according to Rent-A-Center is \$1428.00 and the “leasing” charge is \$2,050.80, so that the  
5 effective private discount rate is at least 64%, and likely substantially greater.<sup>16</sup> A possible  
6 reason for high private discount rates is that individuals have liquidity constraints, such that  
7 people with lower incomes have higher discount rates than people with higher incomes.<sup>17</sup> In  
8 present case, that would mean that lower income ratepayers in particular would have a greater  
9 desire for a payout now rather than getting minimal payments each month over a ten-year time  
10 period.

11  
12 **14. Q. What is the second issue?**

13 A. The second issue here is how much Exelon expects to earn on its investments.  
14 Christopher Crane, Exelon’s CEO, testified that Exelon targets 10 percent return on equity.<sup>18</sup> So  
15 while Exelon is making 10 percent, it is paying out only 4.5 percent. The “deal” the Settling  
16 Parties crafted thus results in a wealth transfer from ratepayers to Exelon of \$118,850 each and  
17 every month for 120 months for a total of more than \$14 million by the end of 10-year period.

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19  

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<sup>14</sup> See e.g., Chase Visa No Annual Fee Freedom Card,  
[https://applynow.chase.com/FlexAppWeb/pricing.do?card=FCBV&page\\_type=appterm](https://applynow.chase.com/FlexAppWeb/pricing.do?card=FCBV&page_type=appterm)s (last visited February 24,  
2014).

<sup>15</sup> [http://www6.rentacenter.com/bundles/samsung-galaxy-s-5-and-samsung-galaxy-note-ii?WT.ac=spcl\\_mar\\_springbundles\\_s5noteiibundle#](http://www6.rentacenter.com/bundles/samsung-galaxy-s-5-and-samsung-galaxy-note-ii?WT.ac=spcl_mar_springbundles_s5noteiibundle#) (last visited February 24, 2015).

<sup>16</sup> Id. 64% likely vastly understates the discount rate because the \$1428 retail price for the cell phones is inflated given that newer versions of the cell phone models exist. If one assumes instead a more realistic price of \$1000, the discount rate balloons to 111%.

<sup>17</sup> Lowenstein, et al., at 384, n. 34 (citations omitted).

<sup>18</sup> Deposition of Christopher Crane, 118:20 - 119:8.

1   **15.   Q.    Are you able to quantify the effects of the proposed amortization mechanism**  
2   **on ratepayers?**

3           A.    The initial Joint Application provided \$17 million or just over \$54/customer.  
4   That means that \$40 million represents a payout today of \$127/customer, on average. Some  
5   customers are gas-only customers, some electric-only customers, and others both, but for  
6   simplification purposes we can assume the typical customer receives \$127. The intuition will  
7   not change if, for example, an electric-only customer's payout is a little higher or a little lower.  
8   Let's also assume there are very low real private discount rates of 4.5%. Under those  
9   assumptions, the average customer gets a rebate of just over \$1.06/month for the next 10 years  
10   and the average gas-only customer gets less than 50 cents/month.<sup>19</sup> So the choice, for example,  
11   for a gas-only customer is the payment of about \$50 today, or 50 cents per month for the next ten  
12   years. If you were a gas-only customer, which would you rather have? What is the last item you  
13   purchased for 50 cents?

14           What we have is Settling Parties deciding for and by themselves how to structure a  
15   payment in a manner that I presume the non-Exelon Settling Parties consider to be advantageous  
16   to ratepayers. This decision appears to be based over a concern articulated by Delaware Public  
17   Advocate consult Glen Watkins that if the ratepayers were provided a lump sum payment, the  
18   efforts of the Settling Parties would otherwise "be soon forgotten."<sup>20</sup> The important point is not  
19   whether or not we are remembered, but the best interest of the ratepayers, and that requires  
20   consideration of the answer that ratepayers are likely to give to the question I posited above.

21           If the private discount rate is 10%, ratepayers would require a payment of \$63 million

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<sup>19</sup> Delaware's population has been growing at about 10,000 persons per year. If that trend continues, and Delmarva Power territory is representative of the state as a whole, the payouts in 10 years will be about 10 percent less per month, while the value of \$1.00 is likely to be less given historic inflation trends.

<sup>20</sup> Direct Testimony of Mr. Glen Watkins on behalf of the Delaware Public Advocate, 36:5.

(rather than \$49 million) to be amortized over ten years to be indifferent between the amortized amounts and one-time cash payouts. At private discount rates greater than 10 percent, Exelon does not benefit, so that above 10 percent, ratepayers are incrementally worse-off under the Settlement and no one is better off. If the private discount rate is 15 percent, ratepayers would require a payment of \$77 million to be indifferent; at 20 percent, \$93 million; and at 30 percent, \$127 million. Going back to the original Joint Applicant proposal of \$17 million, if the private discount rate is 27 percent or greater, ratepayers would be better off with being paid the \$17 million initially offered by the Joint Applicants as a one-time lump sum payment than they would be if the Commission were to approve the settlement as structured.

**16. Q. Assuming for the sake of argument that the CIF had a scientific basis, was adequate and was properly allocated and structured, are there other relevant considerations that the Commission should consider?**

A. Yes. The settlement does not incorporate sufficient mechanisms to avoid financial and regulatory risks posed by the proposed merger or provide compensation to ratepayers for being exposed to the financial risk of higher prices for renewable energy credits and higher health costs because of less fossil fuel displacement. Indeed, the settlement does not address a number of policy concerns regarding the proposed merger that arise from Exelon's practices and positions on renewables in general and wind power specifically. To begin with, Exelon's track record on owning and developing renewable energy generation is not encouraging. It is a laggard when one compares the 2013 percentage of Exelon's generation in MWh per year dedicated to renewable energy generation, 2.17 percent, and that dedicated to solar generation, 0.33 percent, with the minimum percentages required under Delaware's RPS

1 law, which were 10 and 0.6 percent. Exelon also is a laggard on wind power generation  
2 nationally, generating wind power at about one-half the national rate. And while Exelon has  
3 stated that the vast majority of its overall generation is in PJM, a review of Exelon’s website  
4 documents that what wind power it does generate is for the most part located outside PJM,<sup>21</sup> so it  
5 is doing even less than what first appears on renewables to help Delmarva Power ratepayers.  
6 Exelon’s record of renewable energy in general and in PJM specifically is accompanied with a  
7 negative public posture toward policies that facilitate renewable energy development.

- 8 a. Exelon identifies RPS laws as “market and financial risks” to its shareholders<sup>22</sup>
- 9 b. Exelon opposed a merchant transmission project—the Clean Energy Line—before  
10 the Illinois Commerce Commission (since approved) that if built will transmit up  
11 to 3500 MW of wind power from the Midwest into PJM.<sup>23</sup> Exelon’s actions  
12 include opposing the project, requesting rehearing before the Illinois Commerce  
13 Commission on its decision to issue a certificate of public convenience and  
14 necessity and the filing a judicial appeal to overturn that decision<sup>24</sup>
- 15 c. Exelon opposes expanded RPS Laws. Exelon opposed a recent attempt by  
16 neighboring Maryland to expand its law to 40 percent,<sup>25</sup> at least in part because  
17 Exelon’s internal “analysis of the impact to the revenues” of Exelon Generation of  
18 the proposed RPS law “was negative.”<sup>26</sup> As well, Exelon opposed changes to  
19 Illinois RPS law.<sup>27</sup> This is a significant change adverse to the public interest in  
20 that PHI, although present in Maryland through both PEPCO and Delmarva

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<sup>21</sup> <http://www.exeloncorp.com/energy/generation/wind.aspx> (last visited March 1, 2015)

<sup>22</sup> Exelon 2014 10k, pages 41-64.

<sup>23</sup> Firestone Direct, 20:15-18.

<sup>24</sup> See <http://www.icc.illinois.gov/docket/Documents.aspx?no=12-0560>

<sup>25</sup> Anne M. Linder, Exelon, Letter regarding Maryland SB 733 – Public Utilities—Renewable Energy Portfolio Standards, undated.

<sup>26</sup> Deposition of Scott Brown, p. 118; see more generally, pp. 117-120.

<sup>27</sup> Id. at 120.

1 Power did not oppose the enhanced Maryland RPS law.<sup>28</sup> Should the change in  
2 control be approved, Delaware will be exposed to the likelihood that it to will face  
3 concerted opposition to renewable policies like RPS expansion.

- 4 d. Exelon opposes the wind production tax credit (PTC). Exelon's opposition to the  
5 wind PTC recently led it to find common cause with an energy corporation that  
6 primarily owns coal generation assets. Indeed, Exelon CEO Christopher Crane  
7 penned a joint editorial with the CEOs of two other large generation companies,  
8 including the CEO of First Energy, which fuels the majority of its generation with  
9 coal, that was published by Forbes on October 23, 2014, and is available online at  
10 [http://www.forbes.com/sites/realspin/2014/10/23/the-ptc-is-no-longer-needed-to-](http://www.forbes.com/sites/realspin/2014/10/23/the-ptc-is-no-longer-needed-to-support-the-wind-industry/print/)  
11 [support-the-wind-industry/print/](http://www.forbes.com/sites/realspin/2014/10/23/the-ptc-is-no-longer-needed-to-support-the-wind-industry/print/). There, the three CEO's made clear their  
12 opposition to the production tax credit in part because they consider coal plants to  
13 be "critical" and "increasingly vulnerable" due to the "artificial" price suppression  
14 effects of the production tax credit while failing to mention the artificial price  
15 suppression effects of the environmental, health and climate externalities of coal,  
16 as documented in 2010 by the National Academy of Sciences in the *Hidden Costs*  
17 *of Energy* and Epstein, et al., *Full Cost Accounting for the Life Cycle of Coal*,  
18 published in 2011 in volume 1219, pages 73-98, of the Annals of the New York  
19 Academy of Sciences and the immense subsidies the government has showered  
20 on the coal industry.

21  
22 **17. Q. What is the effect of less wind power being built in or transmitted into PJM?**

23 **A.** If less wind power is built in or transmitted into PJM due in part to Exelon's policies,

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<sup>28</sup> See Joint Applicants Responses to Firestones 4<sup>th</sup> Data Set Request, Request for Admissions.

1 practices, advocacy and the like, Delmarva Power ratepayers will pay more for electricity than  
2 they would otherwise. To begin with, they will have to pay more for renewable energy credits  
3 (RECs); this is a simple case of demand, which is mostly fixed in the short-term based on various  
4 state RPS laws, and supply, which is variable.

5 As well, if less wind power is built, the market clearing price in a given hour will  
6 increase, as wind power would otherwise be under a contract, or if it is not, bid in at \$0, raising  
7 the price that Delmarva Power ratepayers must pay for energy regardless of its source, including  
8 coal, natural gas, and Exelon's nuclear power.

9 If wind power developers are not able to count on the 2.3 cents/kWh production tax credit  
10 for each kWh generated during the first ten years after project commissioning, that difference  
11 will have to be made up somewhere, and while a portion may come from lower wind power  
12 developer profits, those developers can be expected to seek higher prices for RECs.

13 In addition to increasing the out-of-pocket money that ratepayers would have to  
14 contribute, higher prices for RECs also may mean less renewable energy for Delaware. This  
15 results because it will be more difficult to expand the current REC minimum in the face of  
16 greater prices; because the existing law only sets minimums; and because the existing law has  
17 cost containment provisions, which if brought into play will freeze REC obligations.

18 Modeling studies also document that renewable energy in PJM displaces primarily coal  
19 and natural gas. The precise ratio will depend on various factors such as where the new  
20 renewable energy generation is built, the extent of build out, and relative prices of coal and  
21 natural gas, but based on studies by PJM in 2009 (Potential Effects of Proposed Climate Policies  
22 on PJM's Energy Market; 60 percent coal displacement; 40 percent from natural gas and oil) and  
23 GE Energy Consulting for PJM in 2014 (Executive Summary, PJM Renewable Integration

1 Study; 36 percent coal; 39 percent natural gas; the remainder decreased imports/increased  
2 exports), most of the displaced fuel is from fossil fuel sources and the ratio of coal to natural gas  
3 is about 1:1.

4  
5 **18. Q. Are there other any other consequences?**

6 A. Yes. There are negative health consequences for Delawareans. It is reasonable to  
7 assume that if additional renewable generation capacity is built, some of the displaced fossil fuel  
8 generation will be upwind from Delaware. Delaware citizens incur health costs due to air  
9 pollution and citizens and businesses incur costs to comply with clean air standards as a result of  
10 emissions from existing upwind fossil fuel generation. In addition, Delaware is among the states  
11 most susceptible to sea level rise, with potentially large economic, social, environmental and  
12 cultural costs. Each of these is a real cost.

13  
14 **19. Q. Why in your opinion will Exelon advance policies that are harmful to**  
15 **Delmarva ratepayers?**

16 A. The root cause of Exelon's posture toward renewables resides not in the nature of  
17 the policies that support renewables, which are not inherently different than those that have long  
18 supported fossil fuel or nuclear power, but rather, in the fact that the lion-share of Exelon's  
19 generation is nuclear power, and unlike nuclear power plants in France, a global leader in nuclear  
20 energy, Exelon's facilities are not load-following. As a result, Exelon's technology is not well  
21 adapted to the 21<sup>st</sup> century of variable, intermittent generation. Technology is often disruptive  
22 (think, e.g., of the Internet on traditional retail or newspapers), but that does not mean that the  
23 new technology imposes a cost on the older technology, only that older technology has to adapt



1 and figure out how to maintain a market for itself. This is just the nature of capitalism. All  
2 investments are a bet, some bets pay-off; others do not. Protection comes not from complaining  
3 about the new guy on the block, but from diversification, insurance, long-term contracts, etc.

4 Because the fuel that powers wind turbines—the wind—is free, merchant wind power  
5 typically is bid into spot markets at \$0 or in any event below what Exelon bids in with its nuclear  
6 generation. This works for wind power generators as they then receive the market-clearing price.  
7 It however does not work so well for Exelon because it lowers the market-clearing price of what  
8 nuclear power and other generators would otherwise receive. Further, low prices are now being  
9 paid for long-term contracts for wind power, further upsetting old market expectations.

10 These market dynamics have led Exelon CEO Christopher Crane to conclude that there is  
11 already an “overbuild,” an “oversupply,” and “excess” wind power.<sup>29</sup> Those market dynamics in  
12 turn drive Exelon positions on legislation. Maryland provides a good example. There, according  
13 to Exelon Vice President Scott Brown, Exelon opposed a bill seeking to expand the Maryland  
14 RPS law in part because if enacted into the law the expansion would have had a negative impact  
15 on the profitability of Exelon’s generation assets.<sup>30</sup> That instance provides an example of how an  
16 integrated company like Exelon might seek to influence policy differently than a pure wires  
17 company, as PHI has admitted that neither it nor Delmarva Power nor Potomac Electric Power  
18 Company opposed the increase in Maryland RPS law,<sup>31</sup> and thus, it underscores concerns with  
19 the merger. Given that the root of Exelon’s policy positions resides in the economic viability of  
20 its nuclear generation assets, I do not expect Exelon to change its positions as long as it continues  
21 to hold on to those assets.

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<sup>29</sup> Christopher Crane Response to Requests for Admissions and Interrogatories in lieu of deposition, Response to Request for Admission 1.

<sup>30</sup> Brown deposition at pages 117, 118 and 122. See also Anne M. Linder, Exelon, Letter regarding Maryland SB 733 – Public Utilities—Renewable Energy Portfolio Standards

<sup>31</sup> Joint Applicants Responses to Firestones 4<sup>th</sup> Data Set Request, Admissions 1-3.

1  
2 **20. Q. Does Exelon consistently advocate a free market approach?**

3 A. No. Its consistency is in advocating policies and practices that favor Exelon. It is  
4 important to understand that Exelon's views depend on which generation technology is being  
5 discussed. For example, take policy support. Exelon seeks for nuclear power a mechanism  
6 almost identical to a mechanism Exelon has stated is a market and financial risk to it when that  
7 mechanism is limited to renewables—a clean energy portfolio standard—that would broaden an  
8 RPS to include nuclear power and provide Exelon with above-market price support. Likewise,  
9 while Exelon opposes even a one-year wind power PTC, it did not oppose a PTC enacted into  
10 law in 2005 for nuclear power that runs for a decade and a half, it has not asked for the nuclear  
11 PTC to be rescinded, and Chris Crane, Exelon's CEO, chairs the Nuclear Energy Institute, which  
12 supports a further extension of the nuclear PTC.<sup>32</sup> And, while Exelon has stated that the wind  
13 PTC should not be further extended because the wind PTC was only intended to be temporary, it  
14 has not advocated the dismantling of the Price Anderson Act's insurance provisions that have for  
15 decades capped nuclear power liability and set up a non-market, social insurance system that  
16 does not differentiate among nuclear power plants based on their relative risk (e.g., age, location,  
17 design), despite the fact those insurance provisions were intended to be only temporary.

18  
19 **21. Q. Does Exelon advocate for the lowest price for end-user consumers?**

20 A. No. The GE/PJM report concludes that under every renewable energy scenario  
21 analyzed, lower fuel, variable O&M and lower locational marginal prices resulted,<sup>33</sup> yet, as

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<sup>32</sup> See <http://www.nei.org/News-Media/News/News-Archives/NEI-Shares-Views-on-Nuclear-Related-Tax-Issues-Wit> and

<sup>33</sup> GE Energy Consulting/General Electric International, PJM Renewable Integration Study, Executive Summary Report, Revision 03., February 28, 2014, p. 7

1 noted, Exelon is working to stop wind power in its tracks given its view that it is in over-supply.  
2 This underscores the conflict between Exelon's actions, which are structured around providing  
3 benefit to its generation business, and the interests of Delmarva ratepayers. A similar conflict  
4 arises in regard to demand response and energy efficiency measures and the compensation that  
5 such energy saving actions receive in the capacity market.

6  
7 **22. Q. Do you have any further thoughts?**

8 A. Yes, I do. It is important to recognize that the above actions do not make Exelon  
9 evil or suggest ill intent; rather they merely reflect the fact that Exelon is a rational, profitmaking  
10 capitalist. It has obligations to its shareholders and, as between the regulated profits it garners  
11 from its utility businesses and the unregulated profits and losses it faces in its generation  
12 business, its fiduciary duty to its shareholders requires that it act in a manner that is in its  
13 shareholders' best interests irrespective of any negative consequences to DPL's ratepayers and  
14 Delaware citizens. This is in contrast to PHI, which shed its generation business and focuses on  
15 being the best supplier it can be, and where the incentives between shareholders and customers  
16 are in reasonable alignment.

17 While there has been much discussion in this case regarding ring fencing and the like to  
18 protect Delmarva Power ratepayers from the risk of being exposed to financial calamity, there  
19 has been little to no attention paid to the need for a similar ring fence to protect ratepayers and  
20 Delawareans from the rational, profit maximizing behavior of Exelon given its generation assets.  
21 Indeed, the proposed settlement does not provide Delmarva Power ratepayers or Delawareans  
22 with adequate protection in that regard. As a consequence, the proposed settlement that is before  
23 you is patently deficient.

1  
2 **23. Q. What conditions might the Commission impose?**

3 A. Appropriate “rink fencing” to protect Delmarva Power ratepayers and  
4 Delawareans from Exelon’s economic incentives and fiduciary duties to its shareholders could  
5 include an agreement by Exelon to divest of its generation assets (or at least its nuclear assets)  
6 within a date certain. Given that Exelon might sooner walk away from the merger than accept  
7 such a condition, should the Commission otherwise be inclined toward approving the change in  
8 control, it should condition such change on:

9 (A) A commitment from Exelon not to seek financial support for its nuclear plants,  
10 including seeking the adoption of a clean energy portfolio standard or similar law;

11 (B) A commitment from Exelon not to oppose proposed modifications to the RPS law;

12 (C) A commitment from Exelon to issue a series of requests for proposals seeking  
13 large renewable energy purchases on each occasion over the next ten years;

14 (D) A commitment from Exelon to exceed the REC “minimums” that are established  
15 under the Delaware RPS law, such as moving toward 40 percent by 2030;

16 (E) A commitment from Exelon to not oppose transmission projects that are conceived  
17 to bring energy into PJM;

18 (F) A commitment from Exelon to study the possibility of land-based wind in southern  
19 Delaware (which I will discuss in more detail later in my testimony in the context of  
20 the proposed natural gas generation study); and

21 (G) A commitment from Exelon to fund offshore wind power research to advance  
22 wind power off the Delaware coast.

23 These are examples of the type of “ring fencing” provisions that could provide significant, albeit,

1 not necessarily, complete renewables protection from the merger.

2  
3 **24. Q. What is your opinion of the renewable energy and energy efficiency**  
4 **provisions that are contained in the proposed settlement?**

5 A. They are meager at best, harmful at worst. To begin with, the settlement would  
6 backslide from Delmarva Power's historic practices. This is a rather startling development given  
7 climate change, including its sea level rise and storm surge effects, and Delaware's low-lying  
8 status, and given the immediate health effects of fossil fuel generation on Delawareans.  
9 Delmarva Power has long taken pride in its land-based and NRG-abandoned offshore wind  
10 power purchase agreements because, unlike many other regulated utilities, Delmarva Power was  
11 not simply purchasing a piece of paper, but in addition, the energy and capacity that made that  
12 piece of paper possible as well. The Settling Parties would bless Exelon undertaking paper  
13 practices that merely repackage how it is going to comply with existing Delaware law that  
14 already requires that Delmarva Power obtain the precise RECs in question. This second- or  
15 third-best measure is by definition, not up to the standard under which Delmarva Power has  
16 operated. The specific new funds dedicated toward energy efficiency—a mere \$2 million—are  
17 also quite meager, and highlight again, the Settling Parties' policy preferences that monies be  
18 dedicated to customer rebates over ten years rather than to measures that will have much greater  
19 economic impact and that will lower the consumption of fossil fuels. The demand response  
20 assurance is welcomed—but unfortunately wrapped in caveats and ambiguity, and in any event is  
21 merely a promise to comply with existing policy—as is the vehicle idling provision and the SEU  
22 coordination, but they are trivial compared to related renewable energy risks involved and to the  
23 effort by the Settling Parties to advance new natural gas generation.

1  
2 **25. Q. How does the proposed settlement address new natural gas generation?**

3 A. The Settling Parties include a requirement that Exelon study new natural gas  
4 generation downstate and attempt to piggy-back it on a desire by the General Assembly that  
5 DNREC and DEDO study downstate natural gas pipeline extension. This slight of hand is not  
6 consistent with the public interest because (a) it is not consistent with the need for, and policy  
7 favoring, fuel diversity<sup>34</sup> within the State of Delaware given the state's exceedingly natural gas-  
8 centric generation; (b) it is not consistent with the need for and policy favoring price stability<sup>35</sup>;  
9 (c) new natural gas generation would result in climate and human health impacts; and (d) to the  
10 extent new generation is considered in the southern part of the state, the generation should be  
11 land-based wind power.

12  
13 **26. Q. Will you please elaborate on downstate, land-based wind power?**

14 A. With new technology that includes the opportunity to have higher wind turbine  
15 hub heights, greater winds the higher one goes, and new carbon-fiber blades that result in  
16 substantially large swept areas by the wind turbine blades, wind maps<sup>36</sup> suggest that an  
17 economically viable wind power project might be able to be developed in the southern part of the  
18 State. This would provide Delaware diverse fueled, price stable, and emissions-free generation  
19 that would also have the effect of suppressing prices more generally. Moreover, any such  
20 development, which would be on private property, would most likely be in rural parts of the

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<sup>34</sup> Title 26 Del. Code §1007(c)(1)b.5.

<sup>35</sup> Title 26 Del. Code §1007(c)(1)b.7.

<sup>36</sup> See the Delaware map at 100m at <http://usasolarwind.com/USA%20Wind%20Maps/Delaware/Delaware%20wind%20speed%20map%20100m.pdf>;  
and national maps with hub heights at 110m and 140m are published by the US Department of Energy at  
[http://apps2.eere.energy.gov/wind/windexchange/windmaps/resource\\_potential.asp](http://apps2.eere.energy.gov/wind/windexchange/windmaps/resource_potential.asp).

1 state, and thus would provide rents and/or royalties to farmers who agree to lease small portions  
2 of their land for wind farming, benefiting the downstate economy as well and helping to maintain  
3 family farms. Finally, when looking at the levelized costs of new generation and considering  
4 environmental damages new wind power is substantially cheaper on a per kWh basis.<sup>37</sup> Any  
5 such order approving the merger should thus require Exelon to study downstate clean wind  
6 power rather than downstate polluting natural gas.

7  
8 **27. Q. Are there any other aspects of the proposed settlement that you would like to**  
9 **comment on?**

10 A. Yes, ring fencing.

11  
12 **28. Q. What is your view of the ring-fencing provisions?**

13 A. Fences make good neighbors, but no fence is fullproof. They do not guarantee  
14 that there will be no prison escapes, illegal immigration or terrorist attacks. Likewise, a ring  
15 fence and other provisions in the proposed settlement on corporate governance cannot guarantee  
16 that ratepayers will be protected. PHI's CEO acknowledged "that it is not a one hundred percent  
17 guarantee"<sup>38</sup> as did the Joint Applicants' expert witness, who described the ring-fencing  
18 measures as something far less than a fail-safe---rather, they accord only a "significant degree of  
19 confidence" as to their effectiveness.<sup>39</sup> The Joint Applicants' will not and cannot produce a letter  
20 from a lawyer that says there is absolutely no possibility of any financial exposure from a claim

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<sup>37</sup> D.T. Shindell, The Social Cost of Atmospheric Release, *Climatic Change*, 10.1007/s10584-015-1343-0 (2015)

<sup>38</sup> Deposition Testimony of Joseph M. Rigby (82:21-22).

<sup>39</sup> Rebuttal Testimony of Ellen Lapson, (32:2-3). Also see other less than unequivocal statements by Ms. Lapson: corporate separateness measures "reduce or eliminate" possibility of consolidation (26:19-22); measures "eliminate or greatly reduce" possibility of voluntary bankruptcy (28:1-3); other measures "materially reduce" or "help refute" the possibility of consolidation or "aim to protect" the stand-alone finances of Delmarva Power (29:7-8; 30:11-15).

(not to mention no possibility that Delmarva Power will not have to defend against any attempt to breach the ring fence). So the costs associated with whatever residual risk remains, by definition, fall on the ratepayers. Small possibilities of catastrophic consequences call for insurance. If the risk fence is as robust as the Joint Applicants contend, it should cost them little to insure against its failure. Because the merger with ring fencing alone is a detriment compared to the status quo, the proposed settlement is not in the public interest and the change in control is not consistent with the public interest.

**29. Q. How does the Settlement compare with other metrics?**

A. The proposed settlement compares dis-favorably to the \$1.6 billion in premiums that Exelon will pay PHI's stockholders should the merger be consummated, and to the recent merger between Exelon and Constellation Energy. In that merger, not only did Exelon pass on a \$113 million in customer bill credits, it directed an additional \$113.5 million for support for items such as energy efficiency and low-income energy assistance as well as \$30 million towards offshore wind power research, an investment of approximately \$680 million to fund 155MW of renewable generation (as compared to paper RECs) of which 30 MW would be solar generation and at least 62.5MW wind power generation as well as many other additional investments totaling in the multi \$100 million dollars.<sup>40</sup>

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<sup>40</sup> In the Matter of the Merger Exelon Corporation and Constellation Energy Group, Before the Public Service Commission of Maryland, Case No. 9271, Order No. 84698 (February 17, 2012), Conditions of Approval, pp. 102-115 available at [http://webapp.psc.state.md.us/Intranet/casenum/NewIndex3\\_VOpenFile.cfm?ServerFilePath=C:\Casenum\9200-9299\9271\278.pdf](http://webapp.psc.state.md.us/Intranet/casenum/NewIndex3_VOpenFile.cfm?ServerFilePath=C:\Casenum\9200-9299\9271\278.pdf).



1   **30.   Q.    Are there any economy of scale benefits from the merger related to**  
2   **renewables?**

3           A.    A potential benefit that I can think of is procurement of offshore wind power.  
4   The industry has been hampered to date in part from a state-by-state approach to offshore wind  
5   power. Offshore wind power requires large capital costs and a large mobilization. Economies of  
6   scale in such an industry can be very important, and bring benefits to ratepayers in terms of  
7   lower prices, although in any event, the near-term price will be above market. A commitment to  
8   a large build also can be transformative for the industry as far as domestic manufacturing, supply  
9   chain and port development, and can serve to bring down the price per MWh. If the merger is  
10   approved, Exelon distribution entities will operate in D.C., Maryland, Delaware, Greater  
11   Philadelphia and part of New Jersey and thus, if Exelon was so inclined, subject to regulatory  
12   approvals, it could move forward with a comprehensive offshore wind power purchase  
13   agreement. For example, if Delmarva Power of Delaware were to purchase energy from 200MW  
14   of offshore wind power as part of the Exelon consortium, it would translate into a substantial  
15   offshore wind buy on the order of 2GW. Any such potential however takes a willing Exelon,  
16   which does not appear to be the case given Exelon opposes both a production tax credit and an  
17   investment tax credit for offshore wind power, feeling it to be a mature technology.<sup>41</sup>

18  
19   **31.   Q.    Will you please summarize your conclusions.**

20           A.    Based on my review and analysis of the proposed settlement as well as the  
21   application, responses to discovery requests, documents produced by the Joint Applicants, direct  
22   and rebuttal testimony of the Joint Applicants, deposition transcripts, and the Settling Parties pre-  
23   filed testimony, I conclude that the proposed settlement is not in the public interest and the

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<sup>41</sup> Brown deposition, pp. 75-76.

1 change in control is not consistent with the public interest. The commitments in the proposed  
2 settlement provide meager benefits to Delmarva Power ratepayers and to the State of Delaware,  
3 and are much less than assumed given the structure of the CIF. Further, based on my review of  
4 Exelon's policies, practices and positions related to the generation, supply and transmission  
5 of renewable energy resources, renewable portfolio standards, energy efficiency and the like, the  
6 proposed merger if consummated will impose significant financial and policy risks on Delmarva  
7 Power ratepayers and the State of Delaware.

8  
9 **32. Q. Does this complete your supplemental testimony today?**

10 A. Yes.

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF DELAWARE**

IN THE MATTER OF THE APPLICATION	)	
OF DELMARVA POWER & LIGHT COMPANY,	)	
EXELON CORORPATION, PEPSCO HOLDINGS	)	PSC DOCKET NO. 14-193
INC., PURPLE ACQUISITION CORPORATION,	)	
EXELON ENERGY DELIVERY COMPANY, LLC	)	
AND SPECIAL PURPOSE ENTITY, LLC	)	
FOR APPROVALS UNDER THE PROVISIONS	)	
OF 26 <i>Del. C.</i> §§ 215 AND 1016	)	
(FILED JUNE 18, 2014)	)	

CERTIFICATE OF SERVICE

I hereby certify that on March 6, 2015, that on behalf of Jeremy Firestone, *Pro Se*, I filed Supplemental Testimony of Jeremy Firestone with Delafile and served a copy of the same on all persons on the email service list by email attachment.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jeremy Firestone". The signature is stylized with a large, looping initial "J" and a cursive "Firestone".

Jeremy Firestone  
6 March 2015